WINCOR NIXDORF

BEETLE /M-II plus (BOS)

Modular System

User Manual

We would like to know your opinion on this publication.

Please send us a copy of this page if you have any constructive criticism.
We would like to thank you in advance for your comments.

With kind regards,

Your opinion:

Wincor Nixdorf International GmbH
Technical Documentation RD HWD01
Rohrdamm 7
D-13629 Berlin
E-Mail: retail.documentation@wincor-nixdorf.com

Order No.: *01750211223B*

BEETLE /M-II plus (BOS)

Modular System

User Manual

Edition January 2012

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Contents

Manufacturer's Certification **1**
Tested Safety 1
FCC-Class A Declaration 1
Safety Notes 2
Important Notes 2

Introduction **4**
About This Manual 4
Care Of BEETLE /M-II plus (BOS) 5
Recycling the BEETLE /M-II plus (BOS) 5
Warranty 6

BEETLE /M-II plus (BOS) - the Modular System **7**
Overview 7
Before Switching On the System 8
Unpacking And Checking the System 8
Setting Up the Device 8
Horizontal Installation 8
Vertical Installation Of the Equipment 9
Mounting the Cable Cover 11
Cabling Of the BEETLE /M-II plus (BOS) 11
Basic Settings 12

The System BEETLE /M-II plus (BOS) **13**
Front Side View 13
ON Button 14
Light-emitting Diode (LED) 14
With RAID-Controller 14
With **onboard** RAID Controllers 15
USB (Universal Serial Bus)- A, USB 2.0 15
Interior View 16

Connector Panel **17**
Power Supply 17
DC24V (Modular Printer) 18
RJ12 (CASHDR) 18
Power Connector 18
System Unit 19
BEETLE /M-II plus (BOS) with a H1- Motherboard 19
BEETLE /M-II plus (BOS) with a G41- Motherboard 20
Jack Plug 3.5 mm (MIC, SPK) 21
Mini- DIN (KYBD) 21
D- Sub Plug (COM1) 21

D- Sub- Jack Power Supplied (COM2*-COM4*).....22
RJ10/RMT Jack (optional).....22
USB (Universal Serial Bus)- A.....22
P-USB (PoweredUSB) 22
RJ45 (LAN) 23
D- Sub, 15 pin (VGA), or DVI or PLINK TFT 23

Disconnecting Cables.....24

Storage Media 26
Change Of the Hard Disk Drive.....26
Change Of Hard Disk Drive Under RAID Onboard 29

RAID Onboard (optional) 30
General 30
Switch-off button (Alarm).....30
Jumper Settings 31

RAID Controller (optional).....32

USB- Hub (optional).....34

COM5*-COM8* Interfaces (optional) 35

VGA, DVI or PLINK Adapter 36

Starting Up the System.....38

Appendix.....40
Technical Data BEETLE /M-II plus (BOS).....40
Interfaces (H1 Motherboard).....41
Interfaces (G41 Motherboard).....42
Total Current Consumption Of Interfaces.....43

Abbreviations 44
Notes.....45

Manufacturer’s Certification

The device complies with the requirements of the EEC directive 2004/108/EC with regard to ‘Electromagnetic compatibility" and 2006/95/EG “Low Voltage Directive”. Therefore, you will find the CE mark on the device or packaging.

Tested Safety

The POS system has been provided with the symbol for “Tested Safety”.

In addition, the BEETLE has received the TL symbol and cUL symbol.

FCC-Class A Declaration

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Modifications not authorized by the manufacturer may void users authority to operate this device. This class A digital apparatus complies with Canadian ICES-003.

Cet appareil numerique de la classe A est conforme à la norme NMB-003 du Canada.

Safety Notes

The device may only be repaired by authorized qualified personnel. Unauthorized opening of the device and inexpertly carried-out repairs may not only seriously jeopar-dize the safety of the user, but also cancel all warranty and liability agreements.

Expansion cards with electrostatically sensitive devices (ESD) can be marked with this sticker.

Important Notes

The modular POS system BEETLE /M-II plus (BOS) conforms to the current safety standards for data processing equipment.

- If this device is taken from a cold environment into the operating room, moisture condensation may form. The device must be absolutely dry before being put into service; an acclimatization period of at least two hours must therefore be observed.
- This device is equipped with a safety-tested power cable and may be connected only to a prescribed grounded-contact power socket.
- When setting up the device, ensure that the power socket on the device and the grounded-contact power socket are easily accessible.
- To disconnect the device from the supply voltage completely, switch off the device and disconnect the power plug of the power supply.
- Ensure that no foreign objects (e.g. office clips) find their way into the device, as this may lead to electric shocks or short-circuits.
- The ventilation slots of the power supply must remain unobstructed to ensure sufficient ventilation of the equipment. If the equipment is to be fitted, you must ensure that the specified minimum distances are maintained and constant ventilation is provided.
- Never plug in or unplug data communication lines during thunderstorms.
- Protect devices from vibrations, dust, moisture and heat.
- Always dispose of used parts, such as batteries, in an environmentally safe manner.
- In emergencies (e.g. damaged housing or damaged power cable, penetration by liquids or foreign bodies), the device must be switched off immediately, the power plug disconnected and the Customer Service of Wincor Nixdorf or your dealer must be notified.

- The lithium battery must be disposed of in accordance with local regulations for special waste. In case of an improper change of the lithium battery it exist an explosion risk.
- Your BEETLE system is the result of modern technical innovation. So please see for according structural and technical surroundings to guarantee a faultless and efficient work of your BEETLE. Therefore, you should connect your BEETLE or other IT-devices only to power supply systems with separately guided protective earth conductor (PE). This kind of electricity system is known as TN-S network. Do not use PEN conductors!
  Please also observe the recommendations of the norm DIN VDE 0100, Part 540, Appendix C2 as well as EN50174-2, §5.4.3.Thus you can help to avoid possible mal functions.
- You can connect or disconnect USB devices during operation of your BEETLE, provided that these devices comply with the specifications according to usb.org.
- Other peripheral devices with higher power requirement (such as PoweredUSB printer) should be connected to or disconnected from your BEETLE system only after the BEETLE has been switched off.
- If you replace a storage medium, make sure that you only use the storage medium recommended or approved by Wincor Nixdorf.

Introduction

BEETLE /M-II plus (BOS) is the powerful and economical basis for your POS system. Powerful processors (Celeron Dual Core E1500, Pentium Dual Core E5300, Core 2 Duo E7400) ensure a quick processing of all operations.

You can connect a variety of different peripheral devices to your BEETLE /M-II plus (BOS) and even the choice of the software is not limited to a certain product.

This provides you with a considerable degree of flexibility when arranging the configuration of your POS system.

The BEETLE can also be connected to a network once an appropriate network card has been installed.

You can connect up to 3 SATA hard disk or up to 3 solid state drives.

Whatever configuration you need: Wincor Nixdorf International GmbH offers the right solution. So, whenever you want to expand your BEETLE /M-II plus (BOS), please contact your Wincor Nixdorf International GmbH branch office or your dealer.

About This Manual

This documentation is intended to help you to work with the POS system and to serve as a reference work. The detailed table of contents help you find the desired information quickly and easily.

Notes in the manual are marked by this symbol.

This symbol is used for warnings.

The type and scope of application programs depend on the customer's own selection; therefore, software will not be discussed further in this manual.

You will find a description of the BIOS Setup and the Central Processing Unit in a separate manual ("POS Motherboard, H1-CPU"or "POS-Motherboard, G41"), see
http://www.wincor-nixdorf.com/internet/site_EN//EN/Support/Downloads/POSLotterySystems/Manuals/manuals_node.html.

Care Of BEETLE /M-II plus (BOS)

Clean your BEETLE /M-II plus (BOS) at regular intervals with a suitable plastic-surface cleaner which can be ordered from Wincor Nixdorf International GmbH. Make sure that the power plug is disconnected and that no liquid finds its way into the device.

Recycling the BEETLE /M-II plus (BOS)

Environmental protection does not begin when the time has come to dispose of the BEETLE; it be gins with the manufacturer. This product was designed according to our internal norm “Environmental conscious product design and development”.

The modular BEETLE /M-II plus (BOS) system is manufactured without the use of CFCs and CCHS and is produced mainly from reusable components and materials.

The processed plastics can, for the most part, be recycled. Even the precious metals can be recovered, thus saving energy and costly raw materials. Please do not stick labels onto plastic case parts. This would help us to reuse components and material.

You can protect our environment by only switching on your equipment when it is actually needed. If possible, even avoid the stand-by-mode as this wastes energy, too. Also switch your equipment off when you take a longer break or finish your work.

At this time, there are still some parts that are not reusable. Wincor Nixdorf International GmbH guarantees the environmentally safe disposal of these parts in a Recycling Center, which is certified pursuant to ISO 9001 and ISO 14001.

So don’t discard your BEETLE /M-II plus (BOS)system on the garbage when it has served its time, but take advantage of the environmentally smart, up-to-date recycling methods!

Please contact your competent branch or the Recycling Center Paderborn (for European countries) for information on how to return and reuse devices and disposable materials under the following mail address.

Email: info@wincor-nixdorf.com
or on the internet.

We look for ward to your mail.

Warranty

Wincor Nixdorf guarantees generally a warranty engagement for 12 months beginning with the date of delivery. This warranty engagement covers all damages which occur despite a normal use of the product.

Damages because of

- improper or insufficient maintenance,
- improper use of the product or unauthorized modifications of the product,
- inadequate location or surroundings

will not be covered by the warranty.

For further information on the stipulation consult your contract.

All parts of the product which are subject to wear and tear are not included in the warranty engagement. For detailed warranty arrangements please consult your contract documents.

Please order spare parts at the Wincor Nixdorf customer service.

BEETLE /M-II plus (BOS) - the Modular System

Overview

You can connect a variety of peripherals to your modular POS system BEETLE /M-II plus (BOS) and thus implement a wide range of expansion stages.

You can connect a customer display and a cashier display.

Also it is possible to

- use various types of scanners such as distance, touch or stationary scanners,
- use scales and scanner scales (please take into account the official certification regulations),
- connect various printers,
- use a workplace with different displays,
- use different types of cash drawers,
- use POS keyboards,
- further interfaces via a USB Hub,
- integrate the BEETLE /M-II plus (BOS) in a network and
- upgrade the BEETLE /M-II plus (BOS), since it can accommodate two PCI cards (1x PCI and 1x PCI-e or 2x PCI).

This means that the BEETLE /M-II plus (BOS) can meet your requirements at all times, without having to exchange the complete system for a new one, thus saving you time and money.

Before Switching On the System

Unpacking And Checking the System

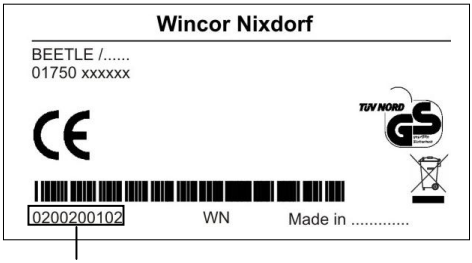
Unpack the components and verify that the scope of delivery is identical to the information on the delivery ticket.

The carton contains the basic unit and a country-specific accessories kit. Some ordered composition may be installed.

Should you notice any transport damages or discrepancies between package contents and delivery ticket or functional defects please inform your contracting parties or the branch office of Wincor Nixdorf immediately.

Please indicate the number of your delivery ticket and delivery ticket position and serial numbers of the respective devices.

The serial numbers can be found on the label illustrated below which are located at the bottom side of the housing.



Serial number

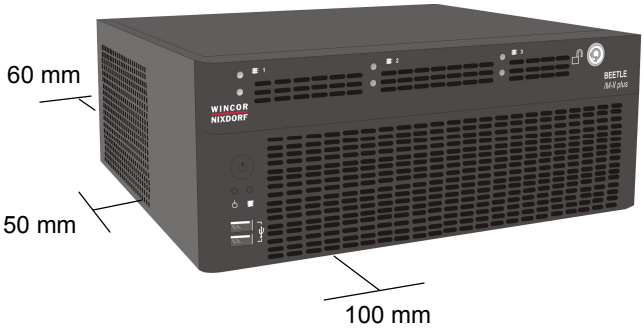
Transport the device only in its original packaging (to protect it against impact and shock).

Setting Up the Device

Set up the BEETLE /M-II plus (BOS)system where it will not be exposed to extreme environmental conditions. Protect the device from vibrations, dust, moisture, heat and strong magnetic fields.

Horizontal Installation

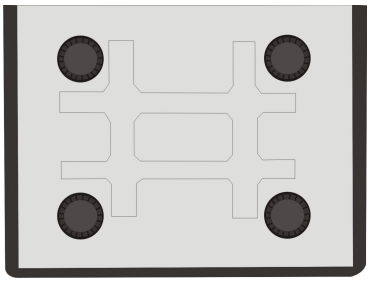
Mind the **minimum distances** indicated below! If the equipment is to be fitted, you also must ensure that the specified minimum distances are maintained and constant ventilation is provided. The immediate ambient temperature of the system must not exceed 40° C (104° F).



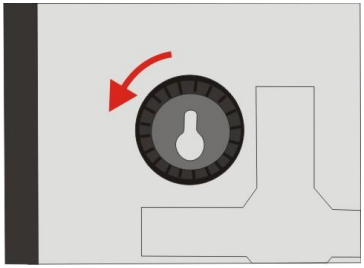
The fitting depth may be equal to the overall depth of the equipment including the cable cover.

Vertical Installation Of the Equipment

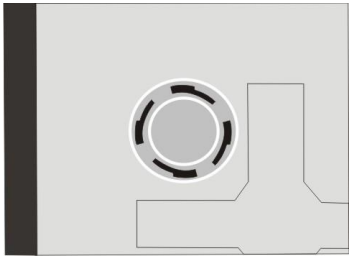
Find 4 feet covered by a film foil at the rear side of the BEETLE.



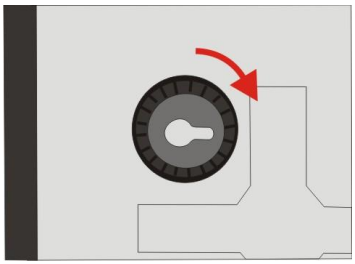
Remove the foils. You see the keyholes for installing the BEETLE /M-II plus (BOS) with four screws.



Remove each of the feet.



Turn each of them to the position needed for the wall mounting, for example:



The minimum distances listed in the figure must be maintained; otherwise, a sufficient ventilation of the equipment is not guaranteed.

The BEETLE /M-II plus (BOS) is designed for horizontal.
If you install the BEETLE /M-II plus (BOS) in vertical position, you have attend to the following:

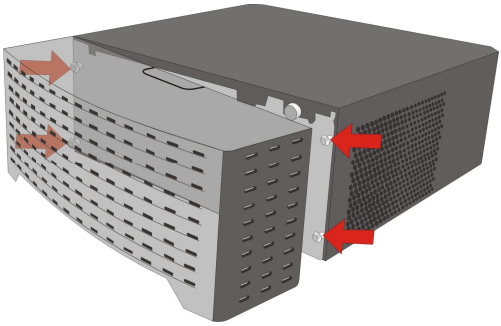
- Three breakable bore holes are located at the underside, which allow the BEETLE /M-II plus (BOS) to be suspended by means of the screws.
- Mind the following minimum clearances also for vertical mounting to ensure sufficient ventilation:

  forward: 100 mm,
  backward: 60 mm
  sideways (left): 50 mm
- A surface made of nonflammable material (e.g. concrete or metal) must be located underneath the vertically mounted power supply unit.

Mounting the Cable Cover

Before mounting the optional cable cover, you should first remove the cable openings where necessary. This depends on the cables which you wish to lay.

Tools are not required as the plastic parts can be removed by hand.

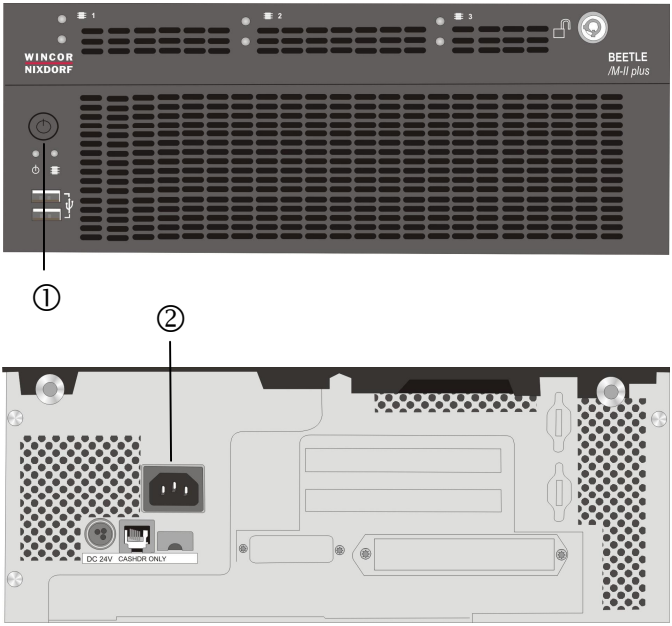


Cabling Of the BEETLE /M-II plus (BOS)

Follow the steps below in the order given when installing devices:

- The cable cover must be removed, if present.
- Plug one end of the power cable into the socket of the BEETLE /M-II plus (BOS).
- Plug the other end of the power cable into the main power supply.

Always make sure that all power plugs from the grounded-contact power sockets are unplugged.



①	ON button
②	power input socket (Input)

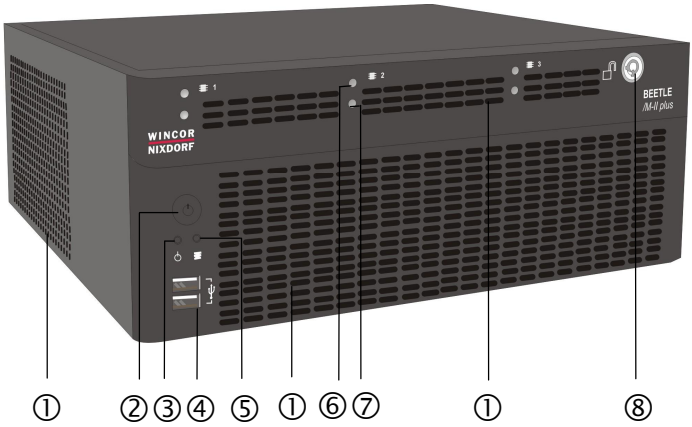
The power supply can be connected to all conventional power supply networks. It automatically adjusts itself to the particular voltage.

Basic Settings

Ex works, the BEETLE /M-II plus (BOS) is configured to your order. Your configuration must be subsequently adapted to support supplementary devices such as scanners. For more information, contact the Wincor Nixdorf International GmbH branch office responsible for your area.

The System BEETLE /M-II plus (BOS)

Front Side View



①	ventilation slots (do not cover!)
②	ON button
③	power LED
④	2 USB interfaces
⑤	HDD/SSD LED
⑥	HDD/SSD LED/ activity signal HDD/SSD 1-3
⑦	HDD/SSD LED/ status signal HDD/SSD 1-3
⑧	locking

ON Button

You switch on the system.

Light-emitting Diode (LED)

The LEDs are labelled with:

HDD/SSD ⑤	right LED flashs orange	read and write access to HDD/SSD
POWER ③	left diode lights orange	stand by mode
	left diode lights green	the device is switched on
HDD/SSD ⑥	upper LED flashs yellow	read and write access to HDD/SSD
HDD/SSD ⑦	-	-

With RAID-Controller

HDD/SSD ⑤	right LED flashs orange, if the installed hard disk is connected to the motherboard	read and write access to HDD/SSD
POWER ③	left LED lights orange	stand by mode
	left diode lights green	the device is switched on
HDD/SSD ⑥	upper LED flashs orange	read and write access to HDD/SSD
HDD/SSD ⑦	lower LED lights green	the storage medium is intact
	lower LED lights red	the storage medium is damaged

With more than two data carriers the LED of the third hard disk or SSD will not be displayed.

With **onboard** RAID Controllers

HDD/SSD ⑤	right LED flashs orange	read and write access to HDD/SSD
POWER ③	left LED lights orange	stand by mode
	left diode lights green	the device is switched on
HDD/SSD ⑥	upper LED flashs orange	read and write access to HDD/SSD
HDD/SSD ⑦	lower LED lights green	the storage medium is intact
	lower LED lights red	the storage medium is damaged

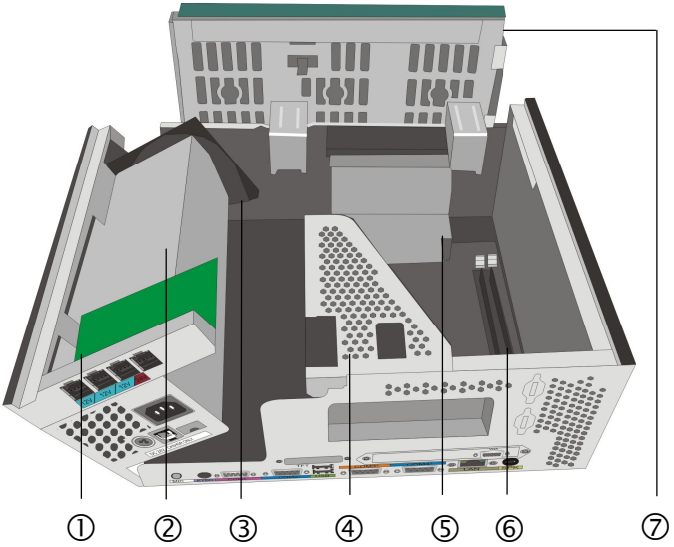
The lower LEDs (HDD/SSD 1-3, ⑦) are switched off, if the onboard controller works under the operating system Linux.

USB (Universal Serial Bus)- A, USB 2.0

You can connect several USB peripheral devices to the USB or powered USB interface (12V or 24V).

Only connect devices equipped with a shielded cable to the USB-interface.

Interior View



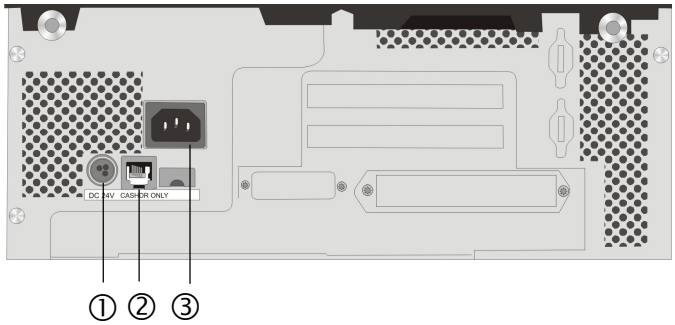
①	USB hub (optional)
②	Power supply
③	Ventilator of the power supply
④	Carrier for PCI cards
⑤	Cooling element for the processor
⑥	RAM
⑦	Carrier for max. 3 HDD or 3 SSD

Connector Panel

Power Supply

The power supply can be connected to all conventional power supply networks. It automatically adjusts itself to the particular voltage and is fan-cooled.

The Power Supply Unit (PSU) carries the 80plus Bronze certificate. So, less energy is needed and less noise is generated as the fan is much lesser activated with a low revolution speed.



①	DC24V (printer)
②	RJ12 (cashdrawer socket)
③	Power connector

At the front side of the box you will find the ON button which will turn on the system.

The system is automatically switched off, when the operating system is shut down. Pushing (approx. 5 seconds) the ON button at any time will shut down the system. The proper function of the On button is defined by the settings of the operating system and the BIOS.

The power cord receptacle and the power socket for the printer are located on the back of the BEETLE system.

The power pack must be removed or replaced by authorized qualified personnel only. Only replace power packs released by Wincor Nixdorf.
To disconnect the device from the supply voltage completely, switch off the device and disconnect the power plug.

DC24V (Modular Printer)

Appropriate POS printers can be connected via the low-voltage jack 24V, max. 3A via non-UPS. A connecting cable with a HOSIDEN plug is required for this.

Connect only cables to the 24V connector which are marked with DP-1 or DP-2.

Do not connect the HOSIDEN plug when the system is turned on, this can lead to an automatical reboot of the system.

RJ12 (CASHDR)

The power supply unit has one RJ12 socket for connecting a cash drawer. Make sure that the connector is plugged firmly into the socket to prevent malfunctioning. RJ12 plugs lock in when you insert them. Power is supplied to the cash drawer via this socket, P24V +5% / -15%.

Connecting daisy chained cash drawers and 12V OEM-drawers is prohibited!

Connect cash drawers only (no telephon).

Power Connector

This connector provides the power. Connect the according end of the power cable to this port and the other end to the power socket.

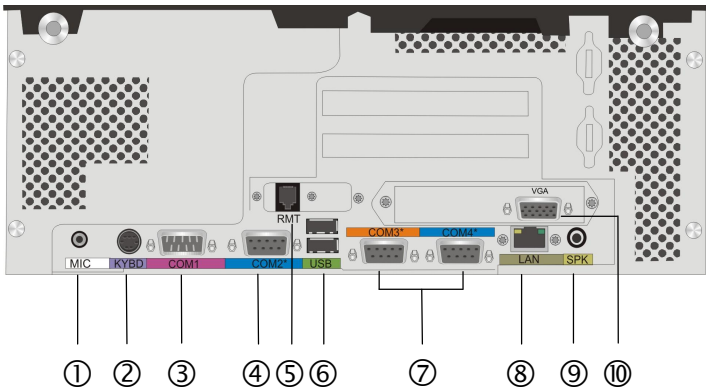
Pull the mains plug to power-off the device.

System Unit

Always make sure that the system is switched off when you do cabling works.
Connecting peripherals with the system switched on is not allowed.

BEETLE /M-II plus (BOS) with a H1- Motherboard

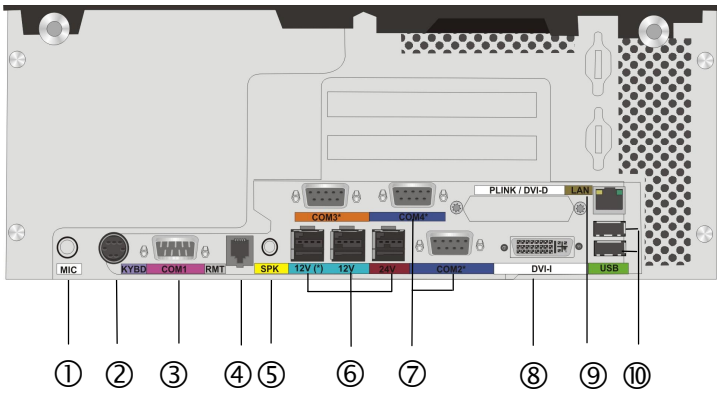
Example for a connector panel:



①	Jack plug, 3.5 mm, MIC
②	Mini DIN (KYBD)
③	D- Sub, COM1 interface
④	D- Sub power supplied, COM2* interface
⑤	RJ10 socket, RMT (optional)
⑥	USB- A (USB 2.0)
⑦	D- Sub power supplied (optional), COM3*/COM4* interfaces
⑧	RJ45 socket (LAN)
⑨	3,5-mm jack plug, SPK
⑩	D- Sub, 15 pin (VGA), optional 24-Pin, DVI-I or PLINK

BEETLE /M-II plus (BOS) with a G41- Motherboard

Example for a connector panel:



①	Jack plug, 3.5 mm, MIC
②	Mini DIN (KYBD)
③	D- Sub, COM1 interface
④	RJ10- socket, RMT
⑤	3,5-mm jack plug, SPK
⑥	1x USB- 12V(*) (for **BA82/BA83**), 1x USB 12V, 1x USB 24V
⑦	D- Sub power supplied (optional), COM2*-COM4* interfaces
⑧	24 pin, DVI-I
⑨	RJ45 socket (LAN)
⑩	2x USB- A (USB 2.0)

Jack Plug 3.5 mm (MIC, SPK)

Physically the microphone (MIC) and the head phone (SPK) jacks are identical as both require 3.5 mm phone jack for data transfer. However, both differ concerning the pin assignment so that a faultless transmission is only ensured with the designated connection.

Besides a microphone a headset can be used alternatively via this interface.

You can set the volume as desired by means of a menu in the BIOS Setup (see chapter "BIOS setup" in the manual “POS Motherboard, H1- CPU”).

Mini- DIN (KYBD)

The BEETLE /M-II plus (BOS) has a 6-pin mini-DIN jack for connecting a key board.

Make sure that the connector is plugged firmly into the socket to prevent mal functioning.

Power is supplied to the key board via this socket. If you wish to connect an older standard PC keyboard with DIN connector, you must use a special adapter cable, obtainable from the WN branch office responsible for your area.

You can connect a mouse in parallel via a Y-cable.

D- Sub Plug (COM1)

Connect for example scales with their own power supply to the COM1 interface. COM1 is designed as a 9-pin D-sub plug.

Make sure that the connector is plugged securely into the socket to prevent possible malfunctioning.

If scales which are not supplied by Wincor Nixdorf International GmbH are connected to the BEETLE /M-II plus (BOS), you must obtain a Wincor Nixdorf licence for the driver software.

The COM1 interface is without effect if a TFT adapter with touchscreen function is installed (adjustment necessary in the BIOS setup).

D- Sub- Jack Power Supplied (COM2*-COM4*)

The interface connection is a 9-pin D-sub jack for scanner, user or customer displays without own power supply.

Make sure that the connector for a peripheral device is screwed firmly to the socket to prevent possible malfunctioning. Power is supplied via this jack.

RJ10/RMT Jack (optional)

You connect the remote (RMT) interface of your POS system via a cable to the RMT interface of the display (BA8X). You use the RMT function by pushing the ON/OFF button of the display.

The Remote On/Off function (RMT) enables you to wake up a BEETLE system out of either standby/ hibernation or soft-off mode. It also puts a running system into standby / hibernation mode. The activated mode is depending on the settings of the operating system.

USB (Universal Serial Bus)- A

You can connect several USB peripheral devices e.g. scanner or scales to the USB.

Only connect devices equipped with a shielded cable to the USB-interface.

P-USB (PoweredUSB)

The P-USB interface is qualified for connections of peripheral devices such as printers, barcode scanners or customer displays.

The power supply is either 12V or 24V (marked red, for POS printers).

A mechanical code avoids the plugging of a USB 12V connector into a USB 24V jack.

Always use the onboard P-USB 12V (*) to connect a BA82 or BA83 with additional options or any other multifunctional screens.

RJ45 (LAN)

The system can be connected to a network (LAN) from the back panel.

LEDs

Left LED	lights green	"network connection"
	flashs green	Date transfer
right LED	out	10 MBit
	lights green	100 MBit
	lights orange	1000 MBit

Only connect shielded LAN cables (CAT5 or CATe for 1000 MBit) as these offer a better protection in case of interferences in a network.

D- Sub, 15 pin (VGA), or DVI or PLINK TFT

If a CRT adapter is installed, you can connect a monitor to the BEETLE /M-II plus (BOS) via the 15-pin D-sub jack on the CRT adapter.
A LCD screen can be connected alternatively if a TFT adapter is installed.

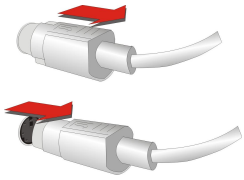
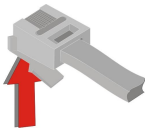
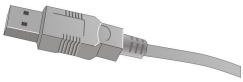
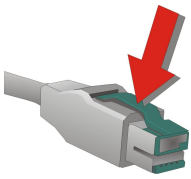
Optional there is a DVI-I jack available to connect a high resolution TFT monitor. The DVI jack has a dual link contact, enabling the transmission of video signals with a max. resolution of 2560×1600 pixels/60 hz. DVI-I transfers digital and analogue image data.

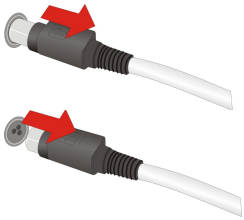
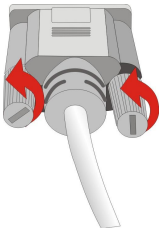
The COM1 or COM2* interface is without effect if the onboard TFT adapter with touch screen function is installed. In this case the interface is not available for other peripherals.

Disconnecting Cables

Never unplug a cable by pulling on the cable; always take direct hold of the plug itself. Follow the procedure below when disconnecting cables:

- Turn off all power and equipment switches.
- Unplug all power plugs from the grounded-contact power sockets.
- Unplug all data communication cables from the sockets of the data networks.
- Unplug all cables from the devices.

	With MINI-DIN plugs (Wincor Nixdorf), the plug remains inserted until released. Pull the plastic covering from the connecting socket with your thumb. The lock is released. The metal of the plug is visible.
	RJ12 plugs lock in when you insert them. To release them push the latch under the plug to the top.
	You loosen the USB-A- connector by pushing the covering of the connector.
	The powered USB connector is disengaged by pressing the spring that is marked by an arrow.

	With Hosiden-connector (printer), the plug remains inserted until released. Pull the plastic covering from the connecting socket with your thumb. The lock is released. The metal of the plug is visible.
	Manually loosen the knurled screws of the DC connector at the power supply.

Storage Media

Following storage media are available

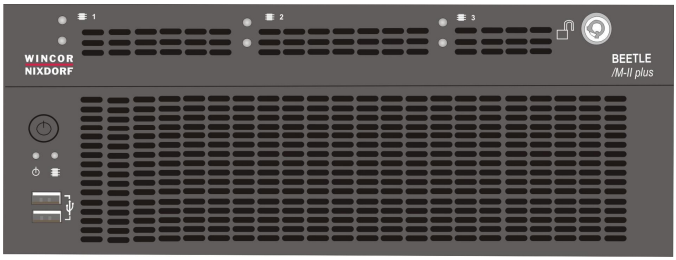
- Up to three 2.5" SATA hard disk or
- Up to three 2.5" solid state drives.

A solid state disk drive is a data storage drive that uses memory elements in place of a rotating disk to store data. The SSD easily subsitutes the hard disk and emulates a hard disk drive interface. The most SSDs are flash memory based.

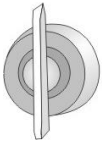
Change Of the Hard Disk Drive

A hot swap, i.e. a change of the hard disk during operation, is only permitted in RAID.

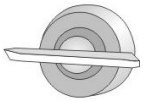
Open the upper bezel with the delivered key.



Key position:

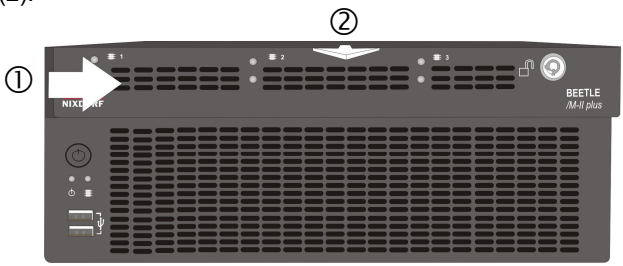


locked

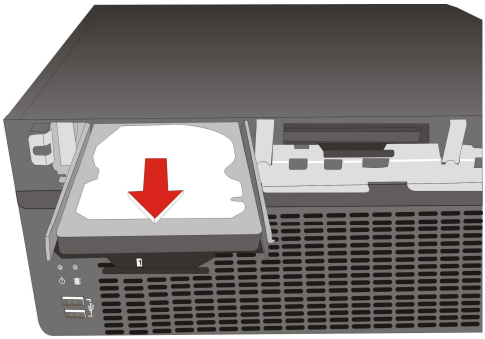


unlocked

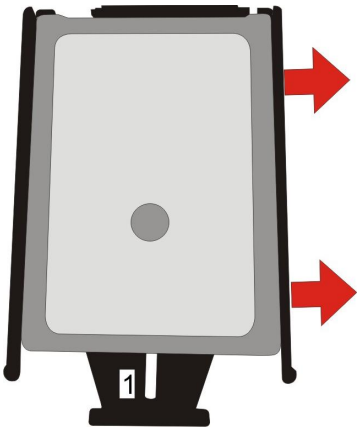
Move the upper bezel in direction of the arrow (1) and put it out of the guide (2).



Take the hard disk carrier out of the housing (for example the hard disk 1). The numbers are visible on the bezel and at the hard disk drive carrier.

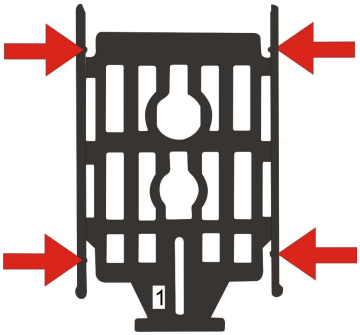


Bend the external side of the carrier in direction of the arrow, for example the right side, and remove the hard disk out of the carrier.



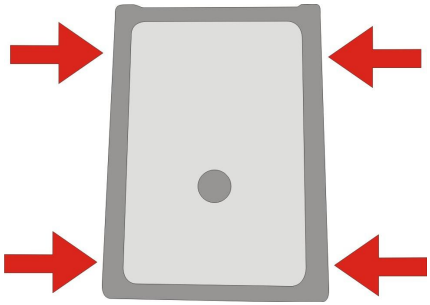
Handle the hard disk with care when installing it and never touch bare electronics.

Ensure that the settings of the new hard disk are correct. It may also be necessary to change settings in the BIOS (see the manual for the mother-board).



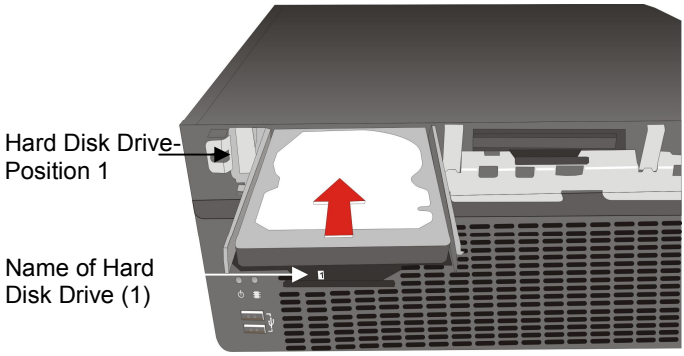
Change the hard disk.

Make sure that the four knobs (see arrows in upper drawing) match with the borings in the hard disk (see arrows in lower drawing).



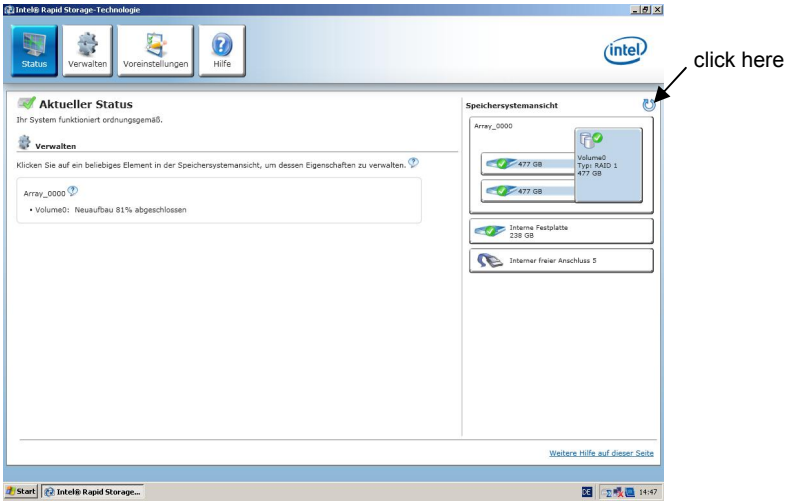
Side view:

Push the hard disk drive carrier 1 into the position 1 of the system (hard disk drive carrier 2 into the position 2 and hard disk drive carrier 3 into the position 3).



Change Of Hard Disk Drive Under RAID Onboard

After the change of hard disk drive make sure that you reinitialise the actual status of the hardware by using a RAID onboard.
Perform a new hardware scan as described:
Start → program → Intel → Intel® Rapid Storage Technology
You will find the following menue.



The logical assignment of the third storage medium is not the physical mapping on the motherboard. The physical SATA port 3 is shown as an internal connector 4.

RAID Onboard (optional)

General

RAID stands for «Redundant Array of Independent Disks». This is a method to interconnect several data carriers, e.g. to store data redundantly or to increase data throughput. By creating such a data redundancy a system can be recovered e.g. after a hard disk failure.

There are different ways to create data redundancy. These ways are classified by RAID levels.

The RAID Controller used in the BEETLE /MII-plus (BOS) supports the RAID level 1. With this method data will be mirrored i.e. data will be stored on two independent data carriers (Hard Disk 1 and 2).

The advantage of this procedure is a complete data security.

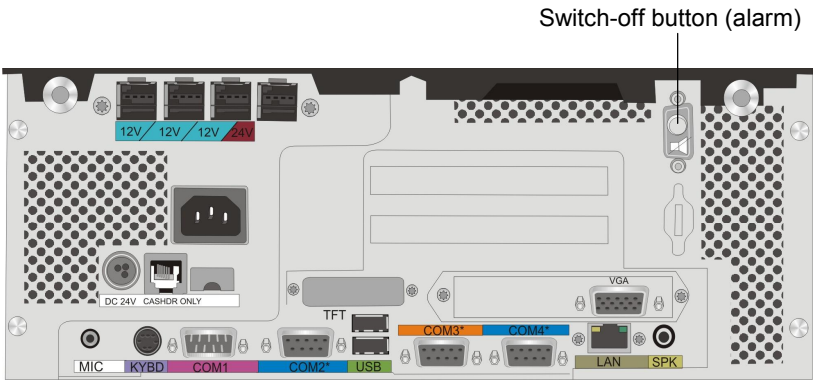
The standard H1 motherboard is equipped with a RAID onboard controller. However, the use of this controller is an option.
The standard G41 motherboard is **not** equipped with a RAID onboard controller.

Note: Linux supporting drivers are not on offer. Therefore, the lower row of LED neither receives signals nor displays a status. Only the activities are visible.

Switch-off button (Alarm)

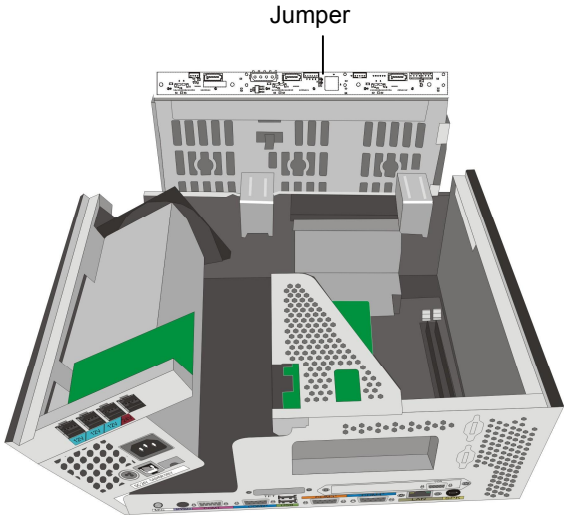
The switch-off button for an alarm is located on the rear side of the BEETLE system. Pushing the button will switch off an acoustic signal, that is generated through an error message of a hard disk.

With a switch-off button installed the COM8* interface is not available.



Jumper Settings

If you want to turn off the audible signal, you can set the jumper on the HDD status board (see below).



No alarm alarm

RAID Controller (optional)

RAID stands for «Redundant Array of Independent Disks». This is a method to interconnect several data carriers, e.g. to store data redundantly or to increase data throughput. By creating such a data redundancy a system can be recovered e.g. after a hard disk failure.

There are different ways to create data redundancy. These ways are classified by RAID levels.

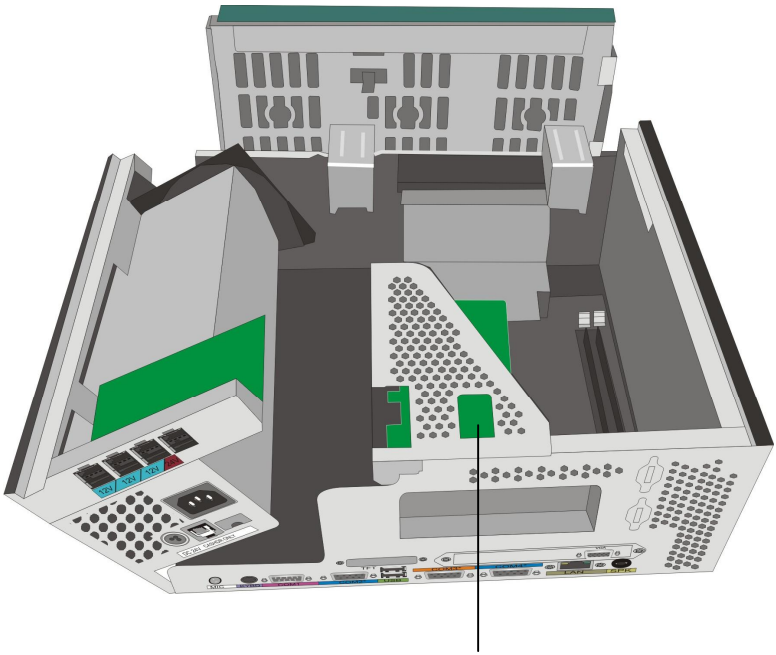
The RAID Controller used in the BEETLE /MII-plus (BOS) supports the RAID level 1. With this method data will be mirrored i.e. data will be stored on two independent data carriers (Hard Disk 1 and 2).

The advantage of this procedure is a complete data security.

Instead of a RAID onboard controller you optionally can use the RAID Controller. This Controller supports the data maintenance on two hard disks. Additionally, the web-based “Promise Array Management Software (WebPAM) offers a user-friendly management for operating and setting-up the hard disk arrays.

The system-specific parameters are stored on the hard disks and facilitate the data migration in case a change of hardware should be necessary.

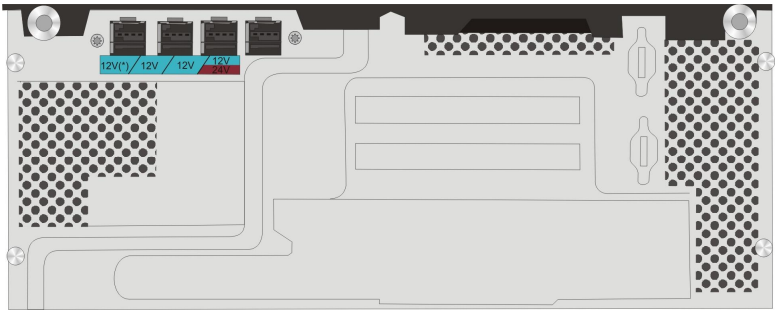
If a hard disk fails you will hear an acoustic signal which only can be stopped by changing the hard disk! However, you can switch-off the signal via software setting.



RAID Controller

USB- Hub (optional)

There are three 12V and one 24V USB interfaces on an optional available board. They allow the connection of peripherals such as printers and scanners. Devices like hard drives can also be connected via a USB interface.



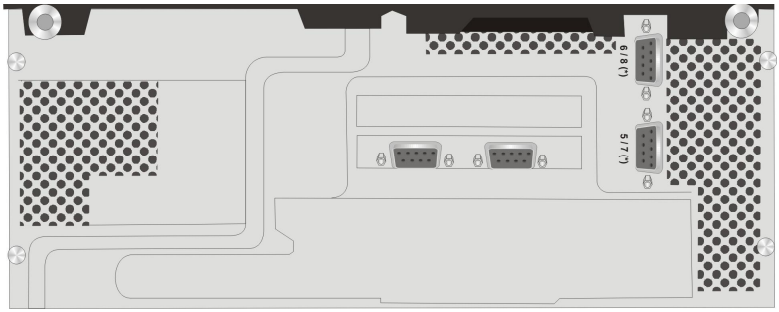
COM5*-COM8* Interfaces (optional)

The standard system is configured with three further COM* interfaces. In addition you can install an optional PCI board with maximal four energised COM* interfaces (COM5*, COM6*, COM7*, COM8*).

Scanners, customer and operator displays without own power supply are connected to these serial interfaces.

The interface connection is a 9-pin D-sub jack.

Make sure that the connector for the customer display is screwed firmly to the socket to prevent possible malfunctioning. Power is supplied via this jack.

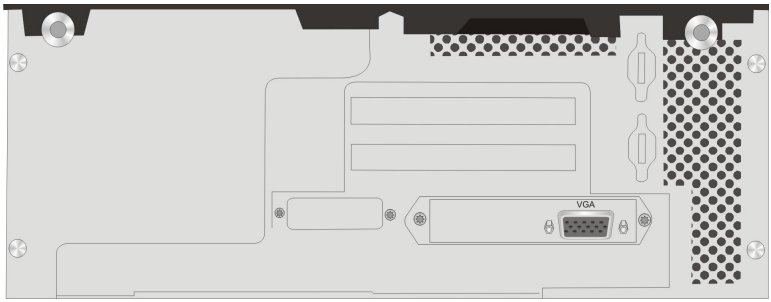


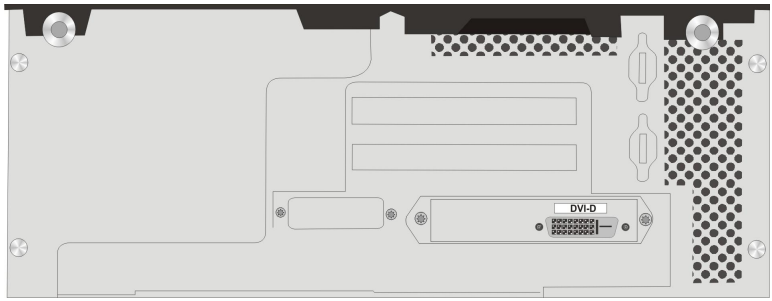
VGA, DVI or PLINK Adapter

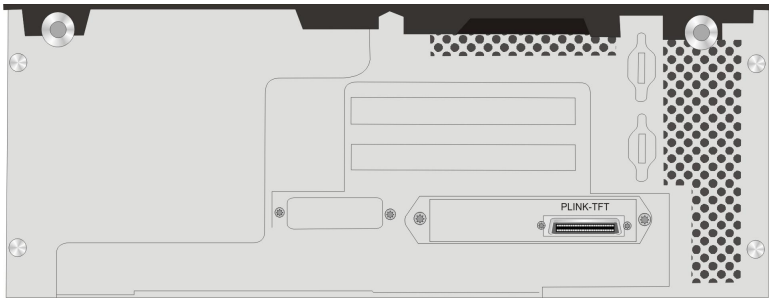
The adapter may be installed in parallel or single. You can connect a CRT monitor or/and a TFT-LCD module with optional touch screen functionality.

When installing a TFT- adapter with touchscreen functionality the cable for the internal loudspeaker must be disconnected to activate the loudspeaker in the screen display.

The touch functionality must be activated via BIOS setup.







NOTE

Expansion cards with electrostatically sensitive devices (ESD) can be marked with this sticker.

When you handle boards fitted with ESDs (electronical components), you must observe the following aspects under all circumstances:

- You must always discharge yourself (e. g. by touching a grounded object) before working with boards containing ESDs.
- The equipment and tools you use must be free of static charges.
- Pull out the power plug before inserting or pulling out boards containing ESDs.
- Always hold boards with ESDs by their edges.
- Never touch pins or conductors on boards fitted with ESDs.

Starting Up the System

After installing the BEETLE /M-II plus (BOS), switch on the system by using the ON/OFF button on the front panel and the power switch on the power supply.

The system first performs an automatic self-test to test its basic functions. For example, you may see the following message (irrespective of processor type) on the monitor:

```
WN „ID xx/xx Date“
```

xx/xx is the placeholder of the BIOS version number.

The system then determines the medium from which the operating system and the application are to be booted. Each medium is assigned a logical drive according to the configuration of your BEETLE /M-II plus.

The following media can be assigned a drive:

- Network
- Hard disk drive/solid state drive
- USB drive

The logical drives are designated C: and D:.

The network is always assigned to the C: drive during the runup procedure. The hard disk can be assigned to the C: or D: drive. The system can only be started from the hard disk if the disk has been configured as the C: drive. Corresponding to the Setup configuration the modular BEETLE /M-II plus (BOS) can be booted from the following drives:

- Hard disk drive C:
- LAN module with BOOTPROM
- USB drive

Please mind that the storage medium must be system-boot-capable.

If the operating system has started up without error, the application software is automatically booted if necessary.

A message is displayed as soon as the BEETLE /M-II plus (BOS) is ready for operation. For more detailed information, see the description of your application program.

Appendix

Technical Data BEETLE /M-II plus (BOS)

Dimensions	
Width	310 mm
Depth	280 mm (w/o cable cover) 369 mm (with cable cover)
Height	126 mm
Weight	approx. 6,5 kg
Climatic category	
Class 3K3	DIN IEC 721-3-3
Class 2K2	DIN IEC 721-3-2
Class 1K2	DIN IEC 721-3-1
Temperature	
Operating (3K3)	+ 5°C up to + 40°C
Transport (2K2)	- 25°C up to + 60°C
Storage (1K2)	+ 5°C up to + 40°C
Input voltage	100- 120 V, 200-240 V
Max. power consumption	6A/ 3A
Frequency of the system voltage	50/ 60 Hz
Noise development	70 dB(A) or less
Mains power outlet	100- 120 V/ 2 A max. 200- 240 V/1 A max.

Interfaces (H1 Motherboard)

COM	COM1 ((w/o power supply), COM2*- COM4* (with power supply), **Optional** COM5*- COM8* (with power supply) via PCI- COM-Board
USB	2 Standard USB + 2 Standard USB at the front side **Optional** 3x 12V, 1x 24V via PoweredUSB hub and 3x 12V PoweredUSB in place of COM3*/4*
LPT	optional onboard
Graphic adapter	supports on board adapter for VGA-, CRT screens and/or Panellink or DVI Resolution: CRT up to 2048x1536 (32 Bit colours); Panellink up to 1600x1200 (24 Bit colours) DVI up to 2560×1600 pixels
MIC, SPK	Ports of microphone and loudspeaker
PS/2	1 (keyboard and mouse via Y- cable)
RJ12	cash drawer, the jack is situated on the integrated power supply
DC24V	POS printer with low voltage on the integrated power supply
RJ45/ LAN	10/100 and 1000 Mbit/s
PCI-Bus/PCIe	1 x PCI 2.1, 32 Bit, 33MHz + 1 x PCIe or 2 x PCI 2.1, 32 Bit
Serial ATA	4 x SATA II/ 3.0 Gbit/s
RAID Controller	onboard*
RJ10	RMT socket (optional)

Interfaces (G41 Motherboard)

COM	COM1 ((w/o power supply), COM2*- COM4* (with power supply), **Optional** COM5*- COM8* (with power supply) via adapter cable from motherboard
USB	2 Standard USB at the front side (with UPS and P-USB Hub only 1 USB), 2 Standard USB at the rear side, 1 x 12V (*), 1 x 12V, 1 x 24V PoweredUSB **Optional** 4x 12V via PoweredUSB hub
DVI-I/PLINK	DVI-I: up to 2560 x 1600 pixels, Panellink up to 1600x1200 (24 Bit colours)
MIC, SPK	Ports of microphone and loudspeaker
PS/2	1 (keyboard and mouse via Y- cable)
RJ12	cash drawer, the jack is situated on the integrated power supply
DC24V	POS printer with low voltage on the integrated power supply
RJ45/ LAN	10/100 and 1000 Mbit/s
PCI-Bus/PCIe	1 x PCI 2.1, 32 Bit, 33MHz + 1 x PCIe or 2 x PCI 2.1, 32 Bit
Serial ATA	3 x SATA II/ 3.0 Gbit/s
RJ10	RMT socket

Total Current Consumption Of Interfaces

The total current consumption at **5V interfaces** must not exceed **5A**.

Each COM*	= 300mA, in total 500mA
Each USB	= 500mA, in total 2A
Each USB (HUB)	= 500mA, in total 2A
TFT/LCD-Display	
Max. 5A @ 5V	

The total current consumption at **12V interfaces** must not exceed **5A**.

Each COM*	= 600 mA, in total 900mA
Each USB	= 1.5A, in total 2A
Each USB (HUB)	= 1.5A, in total 2A
TFT/LCD-Display	
Max. 5A @ 12V	

The total current consumption at **24V interfaces** must not exceed **3A**.

Each USB (HUB)	= 3.0A, in total 3.0A
24VPC power supply	
Max. 3A @ 24V	

Power loss of additionally implemented PCI- and PCIe- Controllers is – for thermic reasons - limited to 10W for each slot and all together to 20W.

Abbreviations

BOS	Back Office System
CE	European Symbol of Conformity
CFC	Chlorinated hydrocarbon
COM	RS 232 Schnittstelle
CPU	Central Processor Unit (for example INTEL Celeron-M)
CRT	Cathode Ray Tube
cUL	Canadian Registration (Recognized by UL)
DIN	Deutsches Institut für Normen (German Institute for Standards)
D-Sub	D- Shaped Subminiature
DVI-I	Digital Visual Interface integrated
ESD	Electronically Sensitive Devices
HDD	Hard Disk Drive
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization,
LAN	Local Area Network
LCD	Liquid Crystal Display
LED	Light Emitting Diode
PCI	Peripheral Component Interconnect
PCIe	Peripheral Component Interconnect express
PEN	Protective Earth Neutral Conductor
PLINK	Panel-Link
POS	Point Of Sales
RAID	Redundant Array of Independent Disks
RAM	Random Access Memory
SSD	Solid State Disk (flash medium)
TFT	Thin Film Transistor
TN-S	Terre Neutre- Separé
UL	Underwriters Laboratory (standards)
USB	Universal Serial Bus
VGA	Video Graphics Adapter
WAN	Wide Area Network
WLAN	Wireless Local Area Network
WN	Wincor Nixdorf International GmbH

Notes

Wincor Nixdorf International GmbH
D-33094 Paderborn

Order No.: ***01750211223B***